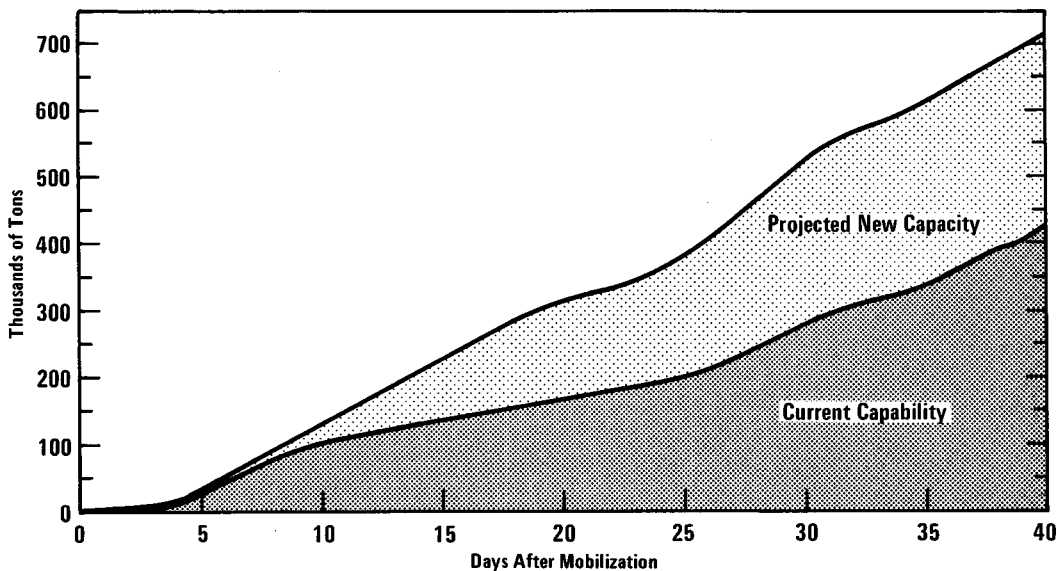


Figure 6.

Projected Total Mobility Capacity for the RDF, Including Planned Upgrades and Expansions



SOURCE: Congressional Budget Office.

Today's mobility resources, together with the programmed adaptations and expansions, could deliver the unit equipment of the larger RDF to Southwest Asia in approximately 42 days. To speed full deployment to 30 days, sealift would be needed. An additional ten prepositioning ships would be required for equipment for one fully supported Army division; materiel for the remaining units could be conveyed on fast logistic ships. As many as eight new fast roll-on/roll-off ships (SL-7s) would also be required. The costs of obtaining these mobility assets would equal approximately \$5.8 billion in budget authority (see Table 4).

Though additional airlift could be considered in lieu of additional prepositioning or sealift, costs would likely prove prohibitive. A full 210 C-5 transport aircraft, which could cost as much as \$35 billion over five years, would be required to provide a capability equivalent to that offered by the additional prepositioning ships. To match the additional sealift's capability would require nearly 160 C-5s, for a total of approximately \$27 billion. Thus, a total fleet of nearly 370 new C-5s would be needed to supplant sealift and prepositioning with airlift. Such an air fleet could cost as much as \$62 billion to procure, in addition to sizable operating costs.

Higher mobility costs could of course be avoided if planners opted to relax the 30-day criterion assumed in this study. They might argue, for

example, that the entire larger RDF need not be deployed so quickly as the current RDF. Roughly half of the Administration's RDF--the equivalent of the current RDF--could be deployed in 30 days, with the remainder to follow later.

Higher costs could also be avoided by deploying the RDF early. Instead of responding to an actual outbreak of hostilities in Southwest Asia, the RDF could be mobilized in response to advance signals of a possible outbreak of combat. Sealift forces would carry out the first phase of such an RDF mobilization, with deployment of SL-7 ships loaded with ground combat forces and equipment. If deployed early, no added costs would be needed to transport the unit equipment of the larger RDF within 30 days. Opponents of this approach would point to the likely ambiguity of signals that could delay such an early RDF deployment.

The Current RDF

The Navy and Air Force mobility improvements the Administration has planned will have a marked effect on the ability of the United States to project forces quickly. Though today, only 70 percent of the unit equipment for the current RDF can be deployed to Southwest Asia within 30 days, upon completion of the Administration's mobility program, the entire force will be rapidly deployable within a month. ^{14/} In fact, to deploy half of the force would take just two weeks, representing a 100 percent increase in mobility for the earliest-deploying forces. This study therefore finds that there would be no added five-year costs beyond those already included in the Administration program to provide speedy delivery of the current RDF.

Implications for NATO, however, could be appreciable. To deploy the current RDF in 30 days' time, all rapid airlift and sealift must be dedicated to the RDF. The programmed lift improvements provide no excess capacity to allow the United States to operate simultaneously in contingencies in Europe and elsewhere. If airlift or fast sealift were withheld or diverted from the RDF, the Administration's program would fall short of meeting the 30-day-deployment criterion. Though the mobility costs of serving the RDF and NATO simultaneously would be prohibitive, this need not be a major drawback. By their very nature, airlift assets can shuttle

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14. It should be noted, however, that when the 30-day ammunition and resupply requirement estimated by the Department of Defense is integrated into the deployment, then it may require as much as 45 days to deploy the current RDF.

between two theaters with reasonable speed; thus simultaneous lift capability may be less important than simultaneous combat strength.

The Smaller RDF

Current mobility resources, without the Administration's planned mobility enhancements, would suffice to allow full deployment of the smaller RDF to Southwest Asia within a 30-day span. The Administration's mobility program would reduce the deployment time for this force to 14 days or less. The airlift and prepositioning programs would contribute most to this shortened reaction time.

Accordingly, mobility costs could be markedly reduced. If the RDF were scaled down to the 165,000-man level, scaling back investments in mobility enhancement might also be possible. For example, the Congress could terminate the C-17 aircraft program while it is still in the development phase, saving approximately \$2.9 billion over a five-year period. Terminating further purchase of C-5 transport aircraft could also be considered, saving an additional \$8.9 billion.

Though less capacity may be sufficient for the smaller RDF, the Administration's mobility program has a key role in other U.S. defense planning. The Department of Defense believes that its mobility initiatives are necessary for meeting deployment goals in other contingencies, particularly NATO. Indeed, the Congressionally Mandated Mobility Study submitted in 1981 identified substantial shortfalls in the ability to deploy to NATO. These would still only be partially met if all the Administration's mobility enhancement programs--including purchase of the C-5 aircraft--were carried out. Thus, the Congress would have to judge whether the RDF or NATO--or both--should be the determining factor in setting U.S. mobility requirements.

CHAPTER V. SUPPORT NEEDS OF THE RDF

A conventional force's success in a military engagement can depend as heavily on support as it does on combat strength. In past encounters, U.S. support personnel--the people who carry out supply, transport, medical, communication, maintenance, and repair services--have proven as critical as combatants. Nonetheless, the support needs of the Rapid Deployment Forces have thus far drawn less public attention.

ARMY SUPPORT REQUIREMENTS

Support needs vary greatly with the nature of the theater in which combat is conducted. The U.S. military distinguishes between "mature" and "immature" theaters. Western Europe, the site of a possible Warsaw Pact/NATO confrontation, is an example of a mature theater that offers an extensive logistical support base. The support assets of Europe include its complex and solid rail and road networks, sophisticated medical services, established national fuel distribution system, and an industrial base capable of furnishing some wartime support for all Allied forces.

RDF Needs

Southwest Asia stands in sharp contrast. In most parts of the region, the RDF would find an immature theater with primitive and scant roads and railways, no established fuel distribution system, little in the way of medical service, and nonindustrial economies unsuited for offering any support to a war effort. As basic a deficiency as potable water in many areas would require the RDF to establish an elaborate water treatment and distribution system.

The lack of support infrastructure in Southwest Asia could lead to an unprecedentedly large demand for support forces relative to combat forces for the RDF. Though the Administration has proposed more than \$1 billion for military construction to support the RDF, little of this sum is to go toward developing logistical infrastructure. (For further discussion of the Military Construction Program to support the RDF, see Appendix C.)

The support the RDF would require would take many forms. Some would be unique to a service, and in an RDF deployment, each service

would be responsible for providing certain of its own support. For example, the Air Force support package to accompany the tactical aircraft units would include maintenance units to service aircraft, engineer units to build and maintain runways and other facilities, medical units with service facilities, and air police to provide air base security. The logistics and support units would, in effect, provide for the base support operations necessary to keep the tactical units flying. Similarly, the Marine Corps would provide maintenance, transport, and medical support for its combat forces within the immediate operational area of the amphibious force (this area is usually limited to a 50-kilometer zone extending from a beachhead). The Air Force and Marine Corps already appear to have adequate resources to meet their unique support needs regardless of where their combat forces were deployed.

The role of Army support forces in Southwest Asia could be larger and more complex than that of any other service. At the RDF commander's decision, the Army would take responsibility for establishing and maintaining the logistical support structure for the RDF in the entire region; this responsibility would be in addition to the Army's particular support needs of its own combat units. Area-wide support would include distribution of ammunition, petroleum, and resupply, road construction and maintenance, convoy security, and theater-wide communication. Because of the larger support role, the analysis in this chapter concentrates on the Army.

An accurate measure of support requirements in the Southwest Asia theater is the number of people actually needed for a particular combat force. The support requirements for each of the three RDF force options are presented in Table 5. Support requirements range from 20,000 for the smaller RDF of 165,000 troops to 124,000 for the Administration's larger version. Engineer, transport, supply, and maintenance units account for the largest percentage of the total number of required support personnel. Engineer units would build and repair roads throughout the theater; transportation units would carry ammunition, fuel, water, spare parts, and many other items that need constant replenishment. The rest of these support requirements--all part of the "theater logistics structure"--would be made up primarily of medical and communication support, and chemical decontamination support in the event RDF units encounter chemical attack. (Estimated Army requirements derive from computer models, using consumption factors for ammunition, fuel, food, and other consumable items. The accuracy of these requirement estimates is of course difficult to verify.)

TABLE 5. ARMY SUPPORT PERSONNEL REQUIREMENTS,
CAPABILITIES, AND SHORTFALLS FOR THREE RDFs

	RDF of 440,000	RDF of 222,000	RDF 165,000
Current Capability			
Active Army	33,000	22,000	6,600
Reserve and National Guard	<u>40,000</u>	<u>27,000</u>	<u>8,000</u>
Subtotal	73,000	49,000	14,600
Shortfall			
Active Army	23,000	22,000	2,400
Reserve and National Guard	<u>28,000</u>	<u>27,000</u>	<u>3,000</u>
Subtotal	51,000	49,000	5,400
<hr/>			
Total Requirement	124,000	98,000	20,000

SOURCES: The support requirements for the larger and current RDF were derived by CBO from Army data reflecting Southwest Asia force requirements for two RDF force levels. The Army establishes its support requirements based on official operational plans that may not include the full reservoir of forces in the RDF. The support requirement for the smaller RDF was estimated using the generic tactical support increment for one airborne division.

THE SUPPORT PERSONNEL AVAILABLE TO THE RDF TODAY

Because the Army does not generally make public a detailed plan for meeting its support requirements, the CBO has derived a generic plan based on several key assumptions.

Key Assumptions

The most important assumption in the CBO analysis concerns support for NATO. About 350,000 total active-duty and reserve Army personnel are assumed available to provide support--more than enough to support even the larger RDF. ^{1/} Many of these, however, are assigned to units that are not earmarked for the RDF but rather are committed to the defense of NATO. Others belong to Army Reserve and National Guard forces and are not ready for rapid deployment.

Since the RDF would most likely be deployed in a crisis situation in which a NATO conflict could be quite possible, the analysis assumes that the United States would not plan to draw disproportionately on support for forces committed to NATO. ^{2/} Rather, the analysis assumes that, as combat forces are mobilized in an RDF action, a proportional share of support forces would be available. This assumption ensures that units not designated for the RDF can operate without reduction in support capability. The implications of this key assumption are discussed again below in connection with meeting the costs of shortfalls in support.

The availability of Reserve and National Guard personnel for RDF support is another key assumption. In the event of a NATO war, these personnel would mobilize and provide about 55 percent of all support for the active Army combat divisions. It seems reasonable to assume that the reserves could provide the RDF with this same level of support, even

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1. The total tactical support currently available within the Army consists of 106,000 active-duty supporters (30 percent), 105,000 National Guard supporters (30 percent), and 140,000 Reserve supporters (40 percent).
 2. The Office of the Secretary of Defense does not make this assumption in assessing support capabilities for the RDF. The Department of Defense's current plan is to draw support from NATO-oriented combat forces, while encouraging the NATO allies to do more than is currently agreed to in the way of host-nation support. On 15 April 1982, the United States and the Federal Republic of Germany concluded an agreement whereby the West Germans intend to train and equip some 93,000 reservists, who would provide wartime support to U.S. forces in the areas of transport, supply, airfield repair, logistics, and security of U.S. Army facilities. This accord was negotiated over several years and is not a direct response to a U.S. commitment of the RDF to Southwest Asia or elsewhere.

though no detailed plans are publicly available from the Army. This assumption would require call-up of no more than 100,000 reservists; this the President is authorized to do for any 90-day period without Congressional approval.

Finally, the analysis rests on certain assumptions about the available support from host nations--that is, those countries that would provide access to land and facilities for U.S. forces during a conflict. In NATO, host nations would supply some of the support. For example, in time of war, civilian truckers would do much of the hauling in West Germany. In Southwest Asia, though, the United States does not have the comparable agreements with host nations; such agreements are slow to negotiate and in some instances, politically not feasible. Thus, this study assumes that the RDF would receive no host-nation support; planners would rely on U.S. support only for all U.S. combatants.

These assumptions imply that 49,000 persons are available to provide support to the current RDF without any adverse effects on support for non-RDF forces (see Table 5). The larger RDF, with more combat forces assigned, would have 73,000 persons, while the smaller RDF would have 14,600. By assumption, 55 percent of the total available personnel are in the Army Reserve and National Guard, while 45 percent are on active duty.

SHORTFALLS IN SUPPORT AND COSTS OF MEETING THEM

The comparison of required support personnel to the numbers actually available suggests that the Army is quite short of personnel to support the current version of the RDF and still shorter for the Administration's larger RDF (see Table 5). The shortfall for the smaller version of the RDF is only 5,400, however. As the above discussion implies, these shortfalls emerge in the analysis primarily because the areas where the RDF is likely to deploy have little usable infrastructure already in place, and because the Army provides support in the entire region. Today's Army does not have the support resources to meet these heavy demands without drawing on NATO-oriented forces. The remainder of this chapter examines the details of shortfalls for each version of the RDF and analyzes the costs to meet them.

Larger RDF

A shortfall of 51,000 Army support personnel emerges for the larger RDF, divided roughly into a 23,000-person active-duty component and a 28,000 Reserve component. Since the current five-year program is to

provide only minor increases to reserve logistic forces, 28,000 Army Reserve and National Guard forces would have to be added. Though the Army plans to expand its active-duty force by 30,000 people over the next five years, the logistics force is to increase by only 6,000. ^{3/} (The difference will be able to man new Army equipment and ensure that existing combat units are filled.) Assuming most of these people would be available for the RDF, a requirement for 17,000 additional active-duty support personnel would remain. To support this force, then, would require 45,000 people (17,000 active-duty and 28,000 reserve) at a five-year program cost of approximately \$1.3 billion (see Table 6). ^{4/} Cost estimates are based on the assumption that added personnel are phased in at a constant annual rate of 9,000 over five years. Costs include pay and allowances plus added expenses for recruit bonuses sufficient to enlarge the Army without lowering the quality of Army recruits.

If the United States chooses not to pay these additional costs, then support needs for the RDF could be met by drawing from the support available for units assigned to NATO. For the larger RDF, this would mean diverting the equivalent support for three active-duty divisions, or 30 percent of the remaining U.S. active divisions that would help defend NATO. If their support were withdrawn for the RDF, and if a simultaneous conflict in NATO erupted, then these three divisions would have little combat capability until their support forces were restored by the arrival of Reserve component support forces from the United States.

Current RDF

The shortage of support does not fluctuate in proportion to the size of the RDF itself. A 49,000 support shortfall for the current RDF consists of roughly 27,000 army reserves and 22,000 active-duty personnel. Interestingly, limiting the number of the RDF combat forces to this level causes the shortfall to decrease only by roughly 2,000 people, or 4 percent. This strikingly slight variation appears because, for an RDF above some threshold size, a nearly constant large number of people would be associated with establishing logistics support.

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3. Hearings before the Committee on Armed Services, United States Senate, 97th Congress, Second Session on S. 2248 (February 10, 1982), p. 853.
 4. Costs reflect only added support people and do not include the cost of additional support equipment that would also be necessary.

TABLE 6. PROJECTED RDF SUPPORT COST REQUIREMENTS
BY SIZE OF RDF, 1984-1988

Year	Larger RDF	Current RDF	Smaller RDF
1984	0.1	0.1	0
1985	0.2	0.2	0
1986	0.3	0.2	0
1987	0.3	0.3	0
1988	<u>0.4</u>	<u>0.4</u>	<u>0</u>
Total	1.3	1.2	0
<hr/>			
Unfilled Requirement	45,000 <u>a/</u>	43,000 <u>b/</u>	0

SOURCE: Congressional Budget Office.

- a. In addition to the 45,000 supporters required, additional general support people would be required in the Army owing to the expanded end strength. These people would provide training support and base operations support. For the current RDF, this would be an additional 1,500 active-duty personnel. The costs include these extra people.
- b. The additional training support and base operations support required for this increased end strength is 1,400 active-duty personnel. The costs include these extra people.

Most support requirements for the RDF would arise in the course of establishing the theater logistics network necessary to sustain this large a force over an extended time. As with the support-personnel shortfall, the cost and NATO effects would not differ markedly from those of the larger RDF. The added support cost of the current RDF would be about \$1.2 billion (see Table 6)--enough to hire the 43,000 added personnel cited above. If support needs were met by drawing on forces assigned to NATO, the loss of NATO capability would be similar to that for the larger RDF.

Smaller RDF

For the smaller RDF, the support shortfall would come to 3,000 reserve support people and 2,400 active-duty troops. With the planned increase of 6,000 in the active-duty support force over the next five years, full support of the smaller RDF would be possible with no additional cost over the approximately \$400 million now planned to add the 6,000 persons. The major reason is that so small a force presents no need to establish a large theater logistics network. Furthermore, the smaller RDF, being specially adapted to peacekeeping or stabilizing missions, would not be called upon to sustain combat over long periods or to confront the most demanding adversaries.

APPENDIXES

APPENDIX A. COSTING THE RAPID DEPLOYMENT FORCES

Calculations of the costs of Rapid Deployment Forces can vary widely depending upon what assumptions are made. In February 1982, Secretary of Defense Weinberger was reported in the press to have earmarked \$4 billion in the fiscal year 1983 defense budget for the RDF. When pressed about this figure during Congressional testimony later in the year, Administration representatives supplied more detailed cost figures. In providing these figures, the Administration distinguished between costs directly related to the RDF and Southwest Asia and those indirectly associated with the RDF. These costs are summarized below:

DIRECT COSTS	
<u>(budget authority in millions fiscal year 1983 dollars)</u>	
Operations and maintenance	378
Aircraft procurement	0
Other procurement	25
Military pay	3
Military construction	331
Subtotal	<u>737</u>

INDIRECT COSTS	
<u>(budget authority in millions of fiscal year 1983 dollars)</u>	
Operations and maintenance	102
Aircraft procurement	108
Other procurement	528
Military pay	34
Military construction	146
Research and Development	111
Procurement weapons and tracked vehicles	138
Stock fund	23
Ship construction	623
Subtotal	<u>1,813</u>
Total--direct and indirect costs	2,550

SOURCE: Department of Defense.

Direct costs include such programs as operations and maintenance for the Near Term Prepositioned Force (NTPF), training exercises, water treatment equipment, and military personnel assigned to the RDF headquarters element only. Indirect costs are broader in scope and include such programs as the Army's Mobile Protected Gun, the SL-7 fast logistics ships, a hospital ship, and communication equipment. Absent, however, are the C-5 and KC-10 airlift programs that were so closely associated with RDF deployments during Congressional hearings in 1982. If the cost for these programs were included in the total direct and indirect costs of the RDF, the fiscal year 1983 budget authority figure would be approximately \$4.1 billion.

This value does not, however, include any costs attributed to forces available to the RDF for deployment. Costs associated with operating, maintaining, and manning the Naval forces currently in the Indian Ocean are not reflected in these figures. Likewise, the Army divisions and Air Force wings under RDF command are not treated as part of RDF costs.

Some analysts would argue that the true costs of the RDF should include costs for those forces that are primarily oriented toward the RDF. This approach would include three and one-third Army divisions, seven Air Force tactical fighter wings, and the prepositioned Marine Corps brigades. This, however, may seriously overstate the true costs, as none of these forces were established explicitly for the RDF, and in fact, all existed before the RDF was created. In addition, there is a widespread belief that, even if the RDF were to cease to exist, these forces would still be necessary for the NATO, Korea, or other missions.

A reasonable estimate of the RDF cost in fiscal year 1983 appears to be \$4 billion. As the RDF increases in size, however, these costs can be expected to rise. Should additional combat forces be necessary to provide a reasonable degree of assurance that the United States can meet all of its defense commitments, then some forces dedicated to the RDF might, in fact, give rise to costs attributable to the RDF.

APPENDIX B. AMPHIBIOUS LIFT

Responsibility for the amphibious lift requirement for Rapid Deployment Forces is unique to the Marine Corps; they are to retain a capability for conducting combat assaults over enemy held beaches. As a result, sealift required to support this mission is unique. All amphibious ships must be capable of loading and transporting Marine Corps equipment in a combat configuration and discharging the equipment over beaches under combat conditions. In today's total inventory of 67 amphibious ships, there are nine major types. By the mid-1980s, some of the older LSD-28 landing ships will begin to reach the end of their expected service life. By 1990, eight of these ships will be retired from active service.

To offset this loss in amphibious lift capacity, the Administration has proposed building a new class of landing ships called the LSD-41. The Congress appropriated \$417 million for these ships in fiscal year 1983. An additional \$55 million was appropriated for long-lead procurement of a new helicopter assault ship, the LHD-1. This ship would be an addition to the current amphibious fleet, not a replacement for any retiring ships. The proposed five-year procurement profile for amphibious ships and the costs associated with the program are as follows:

PROPOSED AMPHIBIOUS LIFT PROGRAM
(Fiscal year 1984 budget authority
in billions of dollars)

	1984	1985	1986	1987	1988	Total
<hr/>						
LSD-41						
Numbers of units	1	2	2	2	2	9
Costs	0.5	0.6	0.8	0.7	0.7	3.3
 LHD-1						
Numbers of units	1	0	1	0	1	3
Costs	1.4	0.1	0.8	0.1	0.9	3.3

The real ability of the amphibious fleet is not solely reflected in the numbers of ships available. Rather, the most common measure of

amphibious lift capability is the percentage of a Marine Amphibious Force (MAF) that can be moved at one time. Lift capability is primarily constrained by cubic footage and helicopter spaces. Before 1981, the greatest constraint on amphibious lift was the number of helicopter spaces available. As a result, the lift was limited to the approximately 1.15 MAFs. The exact size of a MAF is not fixed, and as new doctrine or new equipment is incorporated, the lift requirements for the Marine Corps change. In 1981, the lift requirements established five years before were revised, reflecting a large increase in the number of helicopter spaces required to lift one MAF. When these new requirements became effective, the amphibious lift capability decreased to approximately 0.8 of a MAF. By 1990, when all of the new LSD-41s and LHD-1s now in the program come into inventory, the amphibious lift capability will be a little greater than 0.9 MAF.

The Marine Corps has proposed that the requirement for amphibious lift should be based on being able to lift the assault echelon of a MAF and a Marine Amphibious Brigade (MAB) simultaneously. Whether this is an achievable goal is open to question. Even if the currently proposed five-year funding for amphibious lift could be sustained for an additional five years, the loss of ships in the current inventory attributable to aging would not allow the total amphibious lift capability to rise above one MAF.

APPENDIX C. FACILITIES AND MILITARY CONSTRUCTION IN SOUTHWEST ASIA

For fiscal year 1983, the Department of Defense requested over \$450 million for military construction to support Rapid Deployment Forces in Southwest Asia. This amount was part of an estimated \$1.5 billion program designed mostly to upgrade existing facilities located in countries either in the Southwest Asia operating area or considered critical to deployment to the area (for example, Lajes Field in the Azores). A list of the military construction projects requested in fiscal year 1983 by the Department of Defense and the funds appropriated by the Congress is provided below. With the exception of the construction of Ras Banas, Egypt, the funds are being directed toward improving the airfields and port facilities (see also Figure 1 in Chapter II).

The effort at Ras Banas is the major exception. Plans for Ras Banas call for developing a forward staging area through which combat units would be able to deploy before actually being committed to combat. Located on the Red Sea, the facility, when completed, would be able to handle large transport ships such as the SL-7s and have airfield facilities capable of handling C-5 aircraft. The importance of Ras Banas at this time is largely a function of current politics in Southwest Asia. Although other countries, such as Oman, have agreed to allow the United States to upgrade some of their existing facilities and, in general, are supportive of stated U.S. intentions in the area, none have been forthcoming in offering a location where the RDF could deploy forces prior to the outbreak of hostilities. Though Ras Banas is still a long distance from the Persian Gulf, it is the only facility available to U.S. forces.

In general, the military construction costs in support of the RDF have been modest. This is attributed primarily to the fact that the United States does not maintain a large land-based presence in the area and, with the exception of the Marine Corps contingent afloat in the Indian Ocean, maintains no ground combat forces in Southwest Asia. As a result, there have been no expenditures for base facilities in the area, no major construction for land prepositioning of combat equipment, and no funds for developing a permanent logistics infrastructure to support area combat operations.

Site of Construction	Costs in millions of dollars
Ras Banas, Egypt	
Rear area staging facility	
Division cantonment area	
Supply storage	
C-5 airfield	
Port facility	91
Oman	
Seeb - airfield/facility improvements	
Masirah - airfield/facility improvements	
Thumrait - airfield/facility improvements	60
Mombassa, Kenya	
Base support facilities	
Harbor improvements	8
Berbera, Somalia	
Port/airfield facility expansion	30
Diego Garcia	
Airfield improvement	
Storage facilities	
Maintenance facility	
Wharf	58
Lajes, Azores	
Airfield improvement	0
Total	247

SOURCES: Military Construction Authorization Fiscal Year 1983, S. Report No. 97-440; and Military Construction Authorization Act, 1983, H.R. Report No. 97-525.

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